Venus Flytrap

Under Endangered Species Act review

Description and Life History

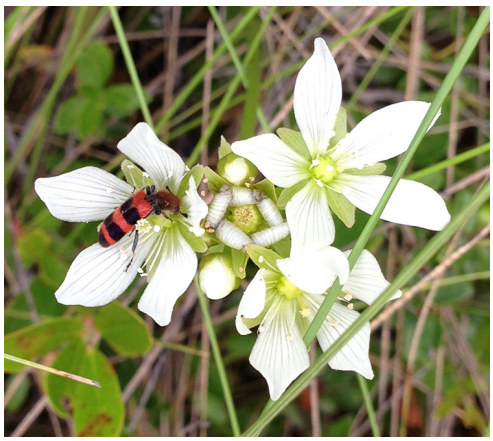
The Venus flytrap (*Dionaea muscipula*) is a perennial plant that blooms year after year and is one of the most widely recognized carnivorous plant species on Earth. The "trap" is made of two hinged lobes at the end of each leaf, each lobe equipped with hair-like projections that when stimulated cause the two lobes to snap shut, trapping insects between them. The trap will only snap shut if the hairs are stimulated multiple times, preventing the plant from wasting energy on false alarms. The traps are edged with small bristles that interlock when the trap shuts, ensuring prey can't escape.

It is estimated that Venus flytrap plants can live up to 20 years in the wild, possibly longer. Venus flytraps produce white flowers from May through June with fruits maturing June through July. Like most plants, the Venus flytrap's main source of energy is provided through photosynthesis but the digestion of insects gives the plant nutrients that are not readily available in the surrounding environment.

Historical and Current Distribution

Currently, the Venus flytrap is found in 15 counties in North Carolina (Beaufort, Bladen, Brunswick, Carteret, Columbus, Craven, Cumberland, Duplin, Hoke, Jones, New Hanover, Onslow, Pamlico, Pender and Sampson) and is considered extirpated (no longer found) in Lenoir, Moore and Robeson counties. In South Carolina, the plant is found in Horry county and is no longer found in Georgetown and Charleston counties. Venus flytrap is common in the horticulture trade and has been planted and naturalized in Alabama, California, Delaware, Florida and New Jersey as well as in other countries like England and New Zealand. The current extent or health of these populations is unknown. Regardless of their condition, these populations are not considered natural populations because they are not within the historic range of the species.

*Venus flytrap (*dionaea muscipula), *credit David McAdoo/Flickr, Creative Commons*



Venus flytrap with Checkered beetle (Trichodes apivorus), credit USFWS/Jennifer Koches

Habitat

Venus flytrap occupies distinct longleaf pine habitats in the two regions of the Carolinas - Coastal Plain and the Sandhills. In the Coastal Plain where it is more common, Venus flytrap occurs in wet loamy pine savannas and sand pine savannas. These sites are generally flat with wet or moist soils for much of the year. The species rarely occurs in seasonally flooded depressions, although it may occur along the edges of such sites. In the Sandhills region, it is limited to narrow, moist areas between Streamhead Pocosins (linear, evergreen shrub bogs along small creeks and their headwaters) and longleaf pine/scrub oak/wiregrass uplands and similar areas between Sandhill seeps and longleaf pine uplands.

Threats

Population numbers and sizes continue to decline primarily due to drastic changes in Venus flytrap's habitat as a result of fire suppression, various agricultural practices, and residential or commercial development which may involve logging, bedding, ditching, and draining. Fire suppression leads to shrub and tree encroachment and a gradual decline in the quality of Venus flytrap habitat. Clear cutting and bedding can physically destroy plants, while ditching and draining can make the soil too dry for moisture-dependent Venus flytraps. Many lesser quality, roadside occurrences of Venus flytraps are threatened by vehicular activities, road maintenance, and road expansions. Another major threat to Venus flytraps is over-collection. Poaching is also a serious threat to Venus flytrap and incidents of theft appear to have increased in recent years. Poaching Venus flytrap plants is now a felony in five North Carolina counties.

U.S. Fish & Wildlife Service

Population Estimate/Status

In the past, about 125 populations existed in North Carolina and South Carolina, but those numbers have now dropped to 71 (69 populations in North Carolina and two in South Carolina). Of the 69 known populations in North Carolina, only 20 are considered to be of excellent or good viability (ranked as A or B). Ten sites are of fair viability (ranked as C) and 38 sites are of poor viability (ranked as D). Thirty-eight percent of the C and D ranked populations are small in size and only contain a few individuals. One population is noted as still persisting (ranked as E) but there is not enough information on the status of that population. Fifty-six populations are considered historic, extirpated (eliminated) or ranked as F because no plants were found during the last survey where they were previously known to occur (North Carolina Natural Heritage Database, 2016).

In South Carolina, the Heritage Trust Program database contains 37 Element Occurrence Records (EORs) for this species consisting of two populations; one metapopulation at Lewis Ocean Bay Heritage Preserve and another population at Cartwheel Bay Heritage Preserve. Of the 37 EORs for the species, 29 were last observed 20 or more years ago and may no longer exist.

The U.S. Fish and Wildlife Service was petitioned in October 2016 to list Venus flytrap as an endangered species under the Endangered Species Act. Updated information on Venus flytrap's status will be published in the Federal Register in August 2017, along with a "warranted" 90-day finding and notice initiating a Species Status Assessment. A "warranted" finding indicates the petition contained substantial information indicating listing may be warranted for the species.

References

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org.

U.S. Fish and Wildlife Service - Draft Status Assessment for *Dionaea muscipula*, (unpublished) 2017.

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Venus flytrap habitat, credit NC State University/Elsa Youngsteadt